nerve-roots near the periphery. It is triangular in shape, its base lying next to the pyramidal column, its apex forward. It extends from the lower part of the lumbar enlargement up through the entire length of the cord, gradually increasing in size, and ends in the nucleus of the lateral column in the formatio reticularis of the medulla.

It degenerates upward after transverse lesions of the cord, and is distinguished from the direct cerebellar column in such lesion by its thickness.

Bechterew is of the opinion that it transmits sensations of pain, his view being based on the experiments of Woroschiloff.

It is to be remembered that both Gowers and Haddon have described an area of ascending degeneration in the exact position described by Bechterew as the situation of this fasciculus, and that they have already advanced the opinion that this fasciculus has a sensory function. Bechterew states that this fasciculus receives a medullary sheath in the fœtus in the eighth month—that is, after the remainder of the lateral column and before the pyramidal tract, a fact not noticed by Flechsig.

The existence of secondary ascending degenerations in this area in the cases of Bechterew, Gowers, and Haddon is not to be doubted. Is it not possible, in view of the fact that in a very large number of cases of well-marked ascending degeneration it was not found, that in these three cases an abnormal position or size of the direct cerebellar columns has led the authors to a rather hasty conclusion? Flechsig has shown that abnormal distribution of fibres in the columns of the cord is by no means rare. In one case in sixty the pyramids do not decussate. It seems therefore a more natural interpretation of the facts, that three abnormal cords have been examined by these authors, than that all previous investigators should have overlooked an important fact.

On Sensorial Localizations in the Cortex Cerebri.—Luciana publishes in *Brain* (part xxiv.) the result of his careful experiments upon sensory localization. They are as follows:

1. Disturbances of vision follow extirpation of the cortex of the parietal, temporal, and frontal lobes, as well as of the occipital lobes, but permanent loss of sight only occurs when the occipital and adjacent parts of the parietal lobes are destroyed. Small lesions in other parts than the visual area may not produce even temporary disturbance of vision. The visual area is, therefore, limited to the parieto-occipital region. In dogs and monkeys the optic decussation is partial, hence lesion of one occipital lobe produces in these animals bilateral homonymous hemianopsia. A connection between a definite part of the retina and a definite part of the visual area could not be proven. The visual area thus described is somewhat more extensive than that of Munk. Total extirpation of both occipital lobes produces absolute blindness at first, but

later this is replaced by psychical blindness (Seelenblindheit). The dog avoids obstacles in walking, but does not recognize any previously familiar object. It therefore follows that the cortical area is not the seat of sensation, but in it the sensations are perceived, compared, mentally arranged, and remembered. The function of the cortex is to elaborate psychically the visual sensations which take place in the mesencephalic ganglia.

2. The auditory area is located in the temporal lobe, each ear being connected with both hemispheres. Disturbances of hearing may be caused by lesions in the adjacent parts of the parietal and frontal lobes, and in the cornu ammonis, but these are not permanent. Psychical deafness follows extirpation of both temporal lobes, but absolute deafness is not permanent.

3. The seat of the olfactory area is in the gyrus hippocampi and cornu ammonis, but also extends into the temporal lobe.

4. The location of gustatory sensations is not determined, but is probably near that of the olfactory.

5. The sensations of touch are perceived in the central convolutions, and therefore lesions of these cause anæsthesia as well as paralysis. The tactile area includes the parietal convolutions also, but does not reach the occipital or temporal lobes.

All the sensations appear to have a common zone in the parietal region, and lesions in this common zone may cause disturbance of all the senses.

It will be seen from this review that Luciani confirms the experiments of Munk, as opposed to Goltz. It is also to be noted that all experimenters except Ferrier now agree that the motor and tactile areas coincide to a great extent. The position held by Ferrier that tactile sensations are perceived in the cornu ammonis, has not been confirmed either by experiment or by pathological observation, and may be abandoned. It is probable that in experimenting on the cornu ammonis Ferrier wounded the tegmentum of the crus, which lies so near to it, and in which pass the sensory tracts, and that for this reason his conclusions were fallacious. M. ALLEN STARR, M.D., Ph.D.

---

b.—PHYSIOLOGY OF THE NERVOUS SYSTEM.

THE INFLUENCE OF THE NERVOUS SYSTEM UPON RIGOR MORTIS.—Dr. A. von Gendre has made a series of experiments upon this subject in the Physiological Institute at Munich. Dr. A. von Eiselsberg, for several years, had made experiments upon this subject in the Institute. In animals killed by bleeding, a blow, or through woorari, he cut the sciatic in one leg immediately after death, and noted when the rigor mortis took place in each posterior extremity. In 72.4 per cent. of the cases, the rigor mortis ensued earlier in the leg whose sciatic was intact—that is, the nervous system accelerated the rigidity of death. Dr. von Gendre used frogs. An incubator was kept constantly at a tempera-